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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/089,515      | 07/03/2002  | Shigeo T. Oyama      | 07820001AA          | 7837             |

7590 07/30/2004

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EXAMINER

WOOD, ELIZABETH D

ART UNIT PAPER NUMBER

1755

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                   |                  |  |
|------------------------------|-------------------|------------------|--|
| <b>Office Action Summary</b> | Application No.   | Applicant(s)     |  |
|                              | 10/089,515        | OYAMA, SHIGEO T. |  |
|                              | Examiner          | Art Unit         |  |
|                              | Elizabeth D. Wood | 1755             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 14-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/3/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/3/02, 6/10/03</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

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***Election/Restrictions***

Claims 14-39 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 2, 2004.

***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:  
Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite in the recitation of "high surface area" because this is relative terminology with no point of reference.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 4,454,246 or U.S. Patent No. 4,359,406, both to Fung.

Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Journal of Catalysis article (XP009009979) submitted by applicants

The instantly claimed composition is a single or binary metal phosphide on a support material. The article discloses alumina supported FeP, which anticipates the herein claimed composition. The Fung references disclose supported binary metal phosphorus compounds that anticipate the herein claimed composition. See particularly page 207, column 1 of the article and column 3, line 16 – column 4, line 43 of both of the Fung references.

Alternatively, these three references can be considered to differ in scope from the instant invention in that the references disclose additional metal phosphides outside the scope of the instant claims. The instantly claimed invention would have been obvious, however, because the skilled artisan is more than capable of selecting one or two metals from a specifically disclosed group of metals with the expectation of success.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,367,137 to Antos et al.

Antos et al. disclose catalytic composites comprising supported phosphorus components that are taught to be a phosphide with a cobalt components, substantially as claimed herein by applicant.

Antos et al. differ from the subject invention in that the scope of Antos et al. and the instant claims is different. Antos et al. require a number of other components not claimed by applicant. However, the open claim language of "comprising" does not exclude such components.

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Any minor differences in the limitations of the dependent claims have been considered. This statement is meant to include limitations such as the exact support selected for use. Limitations such as this are well within the skill of the artisan who will make such selection to maximize surface area and conversion and minimize cost.

Furthermore, any such differences are deemed to be result-effective variables that one of ordinary skill in the art would be expected to manipulate to advantage. Additionally, such limitations can be considered to have been simply known as conventional to the artisan practicing in the art at the time the invention was made and/or were common practices which were so well known in the art that they would have been taken for granted. MPEP 706.02(a).

If applicant believes that one or more limitations are critical to the invention, then applicant should amend the claims to reflect such critical limitations as well as indicate where in the specification such critical limitations were discussed and demonstrated.

The limitations of all claims have been considered and are deemed to be within the purview of the prior art.

**Conclusion**

Applicants are advised that any evidence to be provided under 37 CFR 1.131 or 1.132 and any amendments to the claims and specification should be submitted prior to final rejection to be considered timely. It is anticipated that the next office action will be a final rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth D. Wood whose telephone number is 571-272-1377. The examiner can normally be reached on M-F, 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 571-272-1364. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elizabeth D. Wood  
Primary Examiner

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